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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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36977	7590	11/08/2005	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC 701 FIFTH AVENUE, SUITE 6300 SEATTLE, WA 98104-7092			YANG, CLARA I	
			ART UNIT	PAPER NUMBER
			2635	

DATE MAILED: 11/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/721,054

Applicant(s)

CARRENDER, CURTIS LEE

Examiner

Clara Yang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☒ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the enhanced radio frequency transceiver and its components as called for in claim 16 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. The drawings are objected as explained below.
  - Fig. 4: On page 7 of the specification, the applicant teaches that receiver 50 is associated with communication circuit 38 and is coupled in parallel between antenna 48 and control circuit 40 or coupled in line with RF source 42, amplifier 44, and modulator 46 (see lines 9-12). However, receiver 50 isn't coupled to anything in the figure.
3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

*Claim Objections*

4. Claims 6 and 25 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 6 and 25 call for the adapting means to enable a receiver to receive backscatter modulated reflected signals. However, claims 1 and 20 already calls for the adapting means to enable a receiver to receive backscatter modulated reflected signals (see the last limitation of claims 1 and 20).

5. Claim 20 is objected to because of the following informalities: Change the first limitation to "a source for generating electromagnetic signals and a transmitting means for transmitting electromagnetic signals" since the third limitation calls for "means for adapting the transmitting means", which lacks antecedent basis. Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 16-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 16 calls for means for a radio frequency transceiver circuit, a voice transceiver circuit, and means for adapting the radio frequency transceiver circuit to transmit and receive voice signals and for generating audible sound responsive to the voice signals. It is unclear if the limitation calling for a voice transceiver circuit means "a voice transceiver circuit coupled to the antenna circuit, wherein the antenna circuit is for transmitting radio frequency

interrogation signals and for receiving modulated backscatter signals responsive to the interrogation signals” or “a voice transceiver circuit coupled to the antenna circuit, wherein the voice transceiver circuit is for transmitting radio frequency interrogation signals and for receiving modulated backscatter signals responsive to the interrogation signals”. The examiner interprets the limitation to mean “a voice transceiver circuit coupled to the antenna circuit, wherein the antenna circuit is for transmitting radio frequency interrogation signals and for receiving modulated backscatter signals responsive to the interrogation signals” since the applicant fails to expressly teach in the specification how a voice transceiver circuit is adapted to receiving modulated backscatter signals.

*Claim Rejections - 35 USC § 102*

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-18 and 20-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Seppinen et al. (US 2004/0069852), which claims priority from US Provisional Application Serial No. 60/392,732, filed 26 June 2002.

Referring to claim 1, as shown in Fig. 2, Seppinen teaches a mobile telephone 78 (i.e., a portable communication device) comprising Bluetooth™/radio frequency (RF) reader 1d connected to antenna 10d, signal processor 86, cell phone transceiver 80, and user interface 88.

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Bluetooth™/ RF reader 1d, as shown in Fig. 1, includes: (a) a transmission section (i.e., means for transmitting electromagnetic signals) formed by digital signal processor (DSP) 62, digital-to-analog converters (DACs) 58 and 60, intermediate frequency (IF) filters 40 and 44, RF up-converter mixers 24 and 28, synthesized local oscillator quadrature phase shifter 32, synthesizer 68, transmit amplifier 16, and antenna 10 (see Sections [0039]-[0040]); (b) a reception section (i.e., means for receiving electromagnetic signals) formed by antenna 10, low noise amplifier (LNA) 14, down conversion mixers 22 and 26, synthesized local oscillator quadrature phase shifter 30, synthesizer 68, IF amplifiers 34 and 36, IF filters 38 and 42, limiters 50 and 52, received signal strength indicator (RSSI)/amplitude modulation (AM) detector 64, analog-to-digital converters (ADCs) 54 and 56, and DSP 62 (see Sections [0036]-[0037]); and (c) control logic 66a and 66b (i.e., adapting means) for controlling the transmission and reception sections to transmit an RF interrogation signal and to receive a signal from a passive transponder respectively, wherein the control logic itself is controlled by mobile telephone 78's signal processor 86 (see Sections [0034], [0036], and [0044]). Seppinen discloses that Bluetooth™/ RF reader 1d operates in a passive backscatter RF tag system (see Sections [0008], [0028], and [0034]); thus Bluetooth™/ RF reader 1d's control logic 66a and 66b enables the reception section to receive a modulated backscatter signal from RF tags.

Regarding claim 2, Seppinen discloses that mobile telephone 78's signal processor 86 receives data from an RF tag via Bluetooth™/ RF reader 1d and presents the retrieved information to a user via user interface 88 (see Section [0044]), thereby utilizing the modulated backscatter signal.

Regarding claim 3, as shown in Fig. 1, Seppinen's antenna 10/10*d* is coupled to the transmission section, the reception section, and control logic 66*a* (via LNA 14) and 66*b* (via power amplifier 16).

Regarding claim 4, as explained in the previous rejection of claim 1, Seppinen teaches that Bluetooth™/ RF reader 1*d*'s transmission section (see Fig. 1) includes: (a) synthesizer 68 and quadrature phase shifter 32 (i.e., a radio frequency source) for creating I and Q local oscillator signals to drive RF up-converter mixers 24 and 28 (see Sections [0039]-[0040]); (b) power amplifier 16; and (c) DSP 62 for providing modulated I and Q signals to DACs 58 and 60 (see Sections [0035] and [0039]). As shown in Fig. 1, control logic 66*a* and 66*b*, which form a control circuit, are coupled to the reception section and to quadrature phase shifter 32 via synthesizer 68.

Regarding claim 5, Seppinen discloses that DSP 62 (i.e., a modulator circuit) modulates data using on-off keying (OOK), which is a type of AM modulation, when control logic 66 determines that device 1/1*d* is to operate in the RF reader mode instead of the Bluetooth™ mode (see Sections [0035]-[0036]); thus the transmission section's control logic 66 functions as means for controlling DSP 62 to have AM modulation capabilities.

Regarding claim 6, Seppinen teaches the limitation of this claim, as explained in the previous rejection of claim 1.

Referring to claim 7, as shown in Fig. 2, Seppinen teaches: (a) an antenna circuit formed by antenna 10*d* and a second antenna coupled to cell phone transceiver 80 for transmitting and received voice and data signals (see Sections [0042] and [0044]); (b) a receiver circuit formed by Bluetooth™/ RF reader 1*d* and cell phone transceiver 80 for receiving voice and data signals (see Sections [0036]-[0037], [0042], and [0044]); (c) a transmitter circuit formed by Bluetooth™/

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RF reader 1d and cell phone transceiver 80 for transmitting voice and data signals (see Sections [0036]-[0037], [0042], and [0044]); and (d) signal processor 86 for enabling Bluetooth™/ RF reader 1d's transmission section to transmit RF interrogation signals and to receive modulated backscatter signals (see Sections [0008], [0028], [0034], [0036]-[0037], [0039]-[0040], [0042], and [0044]).

Regarding claim 8, as explained in the previous rejection of claim 2, Seppinen discloses that mobile telephone 78's signal processor 86 receives data from an RF tag via Bluetooth™/ RF reader 1d and presents the retrieved information to a user via user interface 88 (see Section [0044]), thereby utilizing the modulated backscatter signal.

Regarding claim 9, as explained in the previous rejection of claim 5, Seppinen discloses that DSP 62 (i.e., a modulator circuit) modulates data using OOK, which is a type of AM modulation, when control logic 66 determines that device 1/1d is to operate in the RF reader mode instead of the Bluetooth™ mode (see Sections [0035]-[0036]); thus the transmission section's control logic 66 functions as means for controlling DSP 62 to have AM modulation capabilities.

Referring to claim 10, the recitation "enhanced modem" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). As explained in the rejection of claims 1 and 7, Seppinen's Bluetooth™/ RF reader 1d includes: (a) ADCs 54 and 56 for converting (i.e., translating) the received modulated analog signal into a modulated digital signal (see Sections [0035] and



[0037]); (b) a reception section, which includes DSP 62, functioning as means for receiving and demodulating a modulated signal (see Section [0035] and [0037]-[0038]); and (c) means formed by control logic 66a and 66b for adapting the transmission section to transmit an RF interrogation signal and for adapting the reception section to receive modulated backscatter signals (see Sections [0034] and [0036]-[0040]).

Regarding claim 11, as explained in the previous rejection of claim 2, Seppinen discloses that mobile telephone 78's signal processor 86 receives data from an RF tag via Bluetooth™/ RF reader 1d and presents the retrieved information to a user via user interface 88 (see Section [0044]), thereby processing the modulated backscatter signal.

Regarding claim 12, as explained in the previous rejection of claims 5 and 9, Seppinen discloses that DSP 62 (i.e., a modulator circuit) modulates data using OOK, which is a type of AM modulation, when control logic 66 determines that device 1/1d is to operate in the RF reader mode instead of the Bluetooth™ mode (see Sections [0035]-[0036]); thus the transmission section's control logic 66 functions as means for controlling DSP 62 to have AM modulation capabilities.

Regarding claim 13, as shown in Fig. 1, Seppinen's reception section includes receiving means (e.g., antenna 10, LNA 14, mixers 22 and 26, IF amplifiers 34 and 36, IF filters 38 and 42, limiters 50 and 52, ADCs 54 and 56, and RSSI/AM detector 64) coupled to control logic 66, which is a processing circuit (see Sections [0035]-[0038]). Seppinen teaches that Bluetooth™/ RF reader 1d is switched into an RF tag reader mode by mobile telephone 78's signal processor 86, which causes control logic 66 to switch to the RF tag reader mode (see Sections [0026], [0036], and [0044]). This adaptivity, per Seppinen, is controlled by software so that the mode of the radio hardware can be programmed easily and on the fly (see Abstract and Section [0024]); thus

Seppinen's control logic 66 includes means for controlling/programming DSP 62 to receive and process the modulated backscatter signals.

Referring to claim 14, the recitation "parasitic reader" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). As explained in the previous rejection of claim 1, Seppinen's Bluetooth™/ RF reader 1d includes: (a) a transceiver circuit formed by a transmission section and a reception section, wherein the transceiver circuit includes control logic 66 (i.e., processing circuit) (see Fig. 1 and Sections [0036]-[0040]); and (b) software for adapting control logic 66 to control the transceiver circuit to generate RF interrogation signals and to receive and process modulated backscatter signals responsive to the transmitted RF interrogation signals (see Abstract and Sections [0008], [0024], [0026], [0028]-[0029], [0034], [0036], [0038], and [0040]).

Regarding claim 15, Seppinen's control logic 66, since it controls whether Bluetooth™/ RF reader 1d operates in Bluetooth™ mode or RF reader mode, has software programming stored thereon (see Abstract and Sections [0024], [0026], [0036], and [0044]).

Referring to claim 16, Seppinen's mobile telephone 78, as shown in Figs. 1 and 2, comprises: (a) an antenna circuit formed by antenna 10/10d, which transmits interrogation signals and receives modulated backscatter signals (see the previous rejection of claim 1 and Sections [0008], [0028], [0034], and [0040]) and a second antenna, which transmits and receives voice and data signals (see Sections [0042] and [0044]); and (b) cell phone transceiver 80 coupled to the antenna circuit. Per Seppinen, cell phone transceiver 80 permits mobile telephone 78 to

communicate as a mobile telephone so that a user can communicate by means of a radio interface 82 (i.e., RF signal) with a radio access network (RAN) 84 (see Fig. 2 and Section [0042]); thus mobile telephone 78's cell phone transceiver 80, which is connected to an antenna circuit, must have an RF transceiver in addition to a voice transceiver for transmitting and receiving voice and data signals. Though Seppinen fails to disclose the details of mobile telephone 78, mobile telephone 78 must have means, such as a speaker and/or a CODEC, for generating audible sounds responsive to the received voice signals.

Regarding claim 17, Seppinen's mobile telephone 78 has a display/user interface 88 for visually displaying received data signals (see Section [0044]).

Referring to claim 18, Seppinen's Bluetooth™/ RF reader 1*d*, as shown in Fig. 1 and as explained in the previous rejection of claim 1, comprises: (a) antenna 10 coupled to an RF transceiver circuit formed by a transmission section and a reception section, wherein the transceiver circuit transmits RF interrogation signals and receives modulated backscatter signals (see Sections [0008], [0028], [0034]-[0040], and [0044]); and (b) control logic 66 for adapting the RF transceiver circuit to modulate, demodulate, and process signals (see Sections [0034]-[0040]).

Referring to claim 20, Seppinen teaches a radio frequency identification (RFID) system, as shown in Fig. 2, comprising Bluetooth™/RF tag readers 1*a-e*, wherein Bluetooth™/RF tag reader 1*d* is incorporated in mobile telephone 78, and RF tag 100, which is configured to receive an RF interrogation signal and to modulate the impedance of its antenna in order to backscatter a response (see Sections [0008], [0035], and [0044]). As shown in Figs. 1 and 2 and as explained in the previous rejection of claim 1, mobile telephone 78 comprises: (a) cell phone transceiver 80 for generating, transmitting, and receiving electromagnetic signals (see Sections [0042] and [0044]); (b) Bluetooth™/RF tag reader 1*d*'s transmission section, which has a source formed by

synthesizer 68 and local oscillator quadrature phase shifter 32, and reception section (see Sections [0034], [0036]-[0040] and [0044]); and (c) Bluetooth™/RF tag reader 1d's control logic 66 for adapting the transmission and reception sections to transmit an RF interrogation signal and to receive a modulated backscatter signal (see Sections [0008], [0028], [0034]-[0040], and [0044]).

Regarding claim 21, as explained in the previous rejection of claim 2, Seppinen discloses that mobile telephone 78's signal processor 86 receives data from an RF tag via Bluetooth™/RF reader 1d and presents the retrieved information to a user via user interface 88 (see Section [0044]), thereby processing the modulated backscatter signal.

Regarding claim 22, Seppinen teaches the limitations of the claim as explained in the previous rejection of claim 3.

Regarding claim 22, Seppinen teaches the limitation of the claim as explained in the previous rejection of claim 4.

Regarding claim 24, Seppinen teaches the limitation of the claim as explained in the previous rejection of claim 5.

Regarding claim 25, Seppinen teaches the limitation of this claim, as explained in the previous rejection of claims 1 and 20.

10. Claims 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Brideglall (US 2003/0104848).

Referring to claim 18, Brideglall teaches a multi-protocol interrogator 302, as shown in Fig. 2, comprising: (a) an RF transceiver circuit coupled to tuned circuit 306 (i.e., antenna circuit) for transmitting RF interrogation signals and receiving RFID tag 314's backscatter radiation 318 (see Sections [0043] and [0062]-[0063]); and (b) means for adapting the RF transceiver circuit to modulate, demodulate, and process backscattered RFID signals, IEEE 802.11x signals, or

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Bluetooth™ signals (see Sections [0043]-[0044] and [0062]). Though Brideglall fails to expressly teach that interrogator 302 has a modulator, the interrogator's transceiver circuit must have one in order to which communication mode an RFID tag should use (see Section [0062]).

Regarding claim 19, as explained in the previous rejection of claim 18, Brideglall discloses that interrogator 302 is compatible with multiple protocol standards, including IEEE 802.11x (see Abstract and Sections [0043] and [0064]).

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Jacobs (US 5,898,920) teaches a modem having the ability to interrogate a dual-mode cellular telephone.
- Pettersson et al. (GB 2 330 033 A) teach a modem that obtains location information by interrogating the mobile telephone network.
- Boesen (US 2002/0198021) teaches a personal communication device capable of simultaneous wireless voice communications service and wireless data communications service. The device has both a voice transceiver and a data transceiver.
- Perttila et al. (US 2004/0087273) teach a mobile terminal, such as cellular telephone, a personal digital assistant, a laptop computer, etc., that includes an RFID reader.
- Boman et al. (US 2004/0100379) teach an RFID reader having a modem.
- Gunnarsson (US 6,895,221) teaches a mobile communications unit having an RFID reader and a Bluetooth™ radio.
- Saito (US 2005/0205676) teaches incorporating a mobile phone/portable communication device with an RFID interrogator, wherein the interrogator shares the mobile phone's radio wave source, antenna, and power supply.
- Moore (US 6,956,538) teaches an RFID interrogator having a modem.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clara Yang whose telephone number is (571) 272-3062. The examiner can normally be reached on 8:30 AM - 7:00 PM, Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on (571) 272-3068. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CY  
3 November 2005



BRIAN ZIMMERMAN  
PRIMARY EXAMINER